



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/228,087	01/11/1999	BALLARD C. BARE	10980015-1	7323

7590 06/05/2002

HEWLETT PACKARD COMPANY  
INTELLECTUAL PROPERTY ADMINISTRATION  
3404 E HARMONY ROAD  
P.O. BOX 272400  
FORT COLLINS, CO 80528-9599

EXAMINER

HARPER, KEVIN C

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/228,087	BARE, BALLARD C.
	Examiner Kevin C. Harper	Art Unit 2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 11 January 1999.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 January 1999 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ .                                   |

*Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because the reference signs of Figure 31 are not mentioned in the description. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because the following requires descriptive wording:

Figure 31, item 3106, one of items 3100-3104 (assuming items 3100-3104 are identical), and one of items 3110-3134 (assuming items 3110-3134 are identical); and,

Figure 32, items 3200, 3206-3208 and 3212-3216, one of items 3222, 3230 and 3238, one of items 3224,3232 and 3240, and one of items 3226, 3234, and 3242.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allon et al. (US 5,539,883) in view of Grover (US 4,956,835).

Art Unit: 2664

3. Regarding claims 1, 6, 11 and 16, Allon discloses a method for managing a spanning tree (abstract, lines 1-6; Figures 2-4) within a network, the method comprises constructing a pruned tree (col. 7, lines 28-32; col. 8, lines 15-17) and forwarding messages to other network devices according to the pruned tree (col. 4, lines 18-27). However, Allon does not disclose forwarding broadcast messages according to a broadcast tree. Grover discloses pruning a broadcast tree and forwarding messages according to the pruned broadcast tree (col. 24, line 66 through col. 25, line 16) in order to reduce network traffic as well as to avoid well-known circular routing. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to construct a pruned broadcast tree in the invention of Allon as evidenced by Grover.

4. Regarding claims 2 and 12, in Allon, load balancing information is used to construct and update the tree (abstract, lines 3-15).

5. Regarding claims 3-4 and 13-14, in Allon, a network switch (Figure 2A, item 0) receives a request on a port for including the port in future transmitted messages to an edge switch (Figure 2, item 2) and adding the port on the tree (Figure 1A, “REQUEST\_PARENT MESSAGE”; Figure 1B, “REQUEST PARENT?”, “FREE CHILD SLOT?”, “SEND ACK TO m”, “CREATE LINK TO m”) or deleting the port on the tree (Figure 1B, “DISENGAGE(r)?”, “CLEAR PARENT FIELD”, “PRUNE CR”).

6. Regarding claims 7 and 17, in Allon, a message is transmitted to ports for nodes not in the load balance domain (col. 12, lines 36-40),

7. Regarding claims 8-9 and 18-19, Allon does not disclose updating the information in response to a path failure. However, Grover teaches in the same field of endeavor that an alternate path is chosen to compensate for a failed path (abstract, last three lines). Therefore, it

Art Unit: 2664

would have been obvious to one skilled in the art at the time the invention was made to update the tree when there is a failure in the invention Allon.

8. Regarding claims 5, 10, 15 and 20, Allon in view of Grover does not disclose a switch notifying other packets of the failure. One skilled in the art would recognize that typically a node finds a best path (i.e. least-cost) from a source to a destination and that if there is a failure in the path, the path may not be the best path from the source to the destination. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to exchange failure and cost information in the invention of Allon in view of Grover in order for a node to determine a best path from a source to a destination in the event of a failure along a previously used best path.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (US 5,831,975) and Acharya et al. (US 5,903,559) each discloses a multicast tree in an ATM network (col. 9). Gai et al. (US 6,032,194) discloses a multicast tree for load balancing among VLANs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 703-305-0139. The examiner can normally be reached weekdays, except Wednesday, from 8:00 AM to 6:30 PM EST.

Art Unit: 2664

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached at 703-305-4366. The fax number for Technology Center (TC) 2600 is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office for TC 2600 at 703-306-0377.

**KWANG BIN YAO  
PRIMARY EXAMINER**

Kevin C. Harper

  
May 28, 2002

